

manner, and/or replaced or supplemented by other components or their equivalents. Therefore, the scope of the disclosure is defined not by the detailed description, but by the claims and their equivalents, and all variations within the scope of the claims and their equivalents are to be construed as being included in the disclosure.

What is claimed is:

1. A wireless power-transmitting apparatus, comprising:
 - a variable resonator;
 - a power transmitter configured to wirelessly transmit power to a wireless power-receiving apparatus using the variable resonator; and
 - a controller configured to determine class information of the wireless power-receiving apparatus and, in response, control the power transmitter to change impedance of the variable resonator according to the class information.
2. The wireless power-transmitting apparatus of claim 1, wherein the class information includes an indication of at least one of a plurality of classes classified according to at least one of a type, required power, and impedance information of the wireless power-receiving apparatus.
3. The wireless power-transmitting apparatus of claim 1, wherein the controller is further configured to control the power transmitter to transmit a ping signal when a change in impedance of the variable resonator is detected, and to determine the class information from a response signal of the wireless power-receiving apparatus to the ping signal.
4. The wireless power-transmitting apparatus of claim 3, wherein,
 - the variable resonator comprises a variable capacitor;
 - the power transmitter comprises:
 - an inverter including switches connected to the variable resonator; and
 - a capacitance controller configured to control capacitance of the variable capacitor.
5. The wireless power-transmitting apparatus of claim 4, wherein the capacitance controller is configured to control the capacitance according to a control signal provided by the controller.
6. The wireless power-transmitting apparatus of claim 4, wherein the variable capacitor comprises:
 - capacitors connected in parallel; and
 - switches, each of which is connected to at least a portion of the capacitors in series.
7. The wireless power-transmitting apparatus of claim 4, wherein the class information is represented by N bits, wherein N is a natural number greater than 0, and the variable capacitor includes N capacitors connected in parallel.
8. The wireless power-transmitting apparatus of claim 7, wherein the controller provides the class information to the capacitance controller as the control signal.
9. A method of controlling a wireless power-transmitting apparatus, the method comprising:
 - actuating a wireless power transmitter to transmit a ping signal;
 - receiving a response signal of a wireless power-receiving apparatus to the ping signal, and identifying class information of the wireless power-receiving apparatus from the response signal; and

changing impedance of a variable resonator of the wireless power transmitter in response to the identified class information.

10. The method of claim 9, wherein the class information comprises an indication of at least one of a plurality of classes classified according to at least one of a type, required power, and impedance information of the wireless power-receiving apparatus.

11. The method of claim 9, wherein the identifying of the class information comprises obtaining the class information in a reserved location of a configuration packet included in the response signal.

12. The method of claim 11, wherein the class information corresponds to a lower four bits included in a second block of the configuration packet.

13. The method of claim 9, wherein the changing of the impedance of the variable resonator comprises:

determining a first impedance corresponding to the identified class information; and

changing the capacitance of the variable resonator to be substantially equivalent with the first impedance.

14. The method of claim 9, wherein the changing of the impedance of the variable resonator comprises:

determining values of a plurality of bits corresponding to the identified class information; and

using the plurality of bits as a control signal for a corresponding plurality of switches included in the variable resonator.

15. The method of claim 9, further comprising wirelessly supplying power by magnetically coupling the variable resonator having the changed impedance with a resonator of the wireless power-receiving apparatus.

16. A wireless power-receiving apparatus, comprising:

- a resonator;

a power receiver configured to wirelessly receive a wireless power radiation from a wireless power-transmitter apparatus using the resonator; and

a controller configured to communicate a class information of the wireless power-receiving apparatus to the wireless power-transmitter apparatus to control the power transmitter to change an impedance according to the class information.

17. The wireless power-receiving apparatus of claim 16, wherein the controller is configured to modulate a received wireless power radiation to communicate the class of the wireless power-receiving apparatus to the wireless power-transmitter apparatus.

18. The wireless power-transmitting apparatus of claim 1, further comprising:

a short-range wireless communication circuit configured to receive an indication of class information of the wireless power-receiving apparatus.

19. The wireless power-receiving apparatus of claim 16, further comprising:

a short-range wireless communication circuit configured to transmit an indication of class information of the wireless power-receiving apparatus to the wireless power transmitter apparatus.

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